HDR 203HD
Ruggedized High Definition Video Cassette Recorder

User Manual

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Chapter 1 Introduction

General

The HDR 203HD is a ruggedized version of the model SR-W5U W-VHS tape recorder from JVC Professional Products. The HDR 203HD works in conjunction with the Videolink HD, a bi-directional RGB to HDTV scan converter.

The ruggedized model offers the following features and upgrades:

- All metal chassis
- BNC locking connectors on all inputs and outputs
- RS-232 port
- Shock mounting
- 220 volt AC option
- Internal stiffening
- Rackmounts

For a complete understanding of this recording system, this manual should be considered in conjunction with the User Manual for the Videolink HD.

Shock Mounts

Two types of shock mounting are offered:

- for shipboard and airborne applications
- for land-based applications

The difference between these two shock mounting options is that for land-based applications they are stiffer. There is no visual difference between the two.

Rack Mounts

The standard rackmount components supplied with the HDR 203HD includes slides suitable for a 20" deep rack. The front screw holes of the slide and front panel of the HDR 203HD are designed to work with a compound style mount. That is, a rack equipped with double vertical mount bars, providing two sets of front screw holes.

Extenders and mounting adapters can be ordered to custom fit the rackmount to a particular rack size and style.

Recording Media

The recorder can use either W-VHS or Digital S video cassette tapes. Both types are offered in recording lengths varying from 1 - 3.5 hours.

Mechanicals

The back panel of the HDR 203HD is shown below. For specific connection instructions, please refer to the User Manual for the Videolink HD.

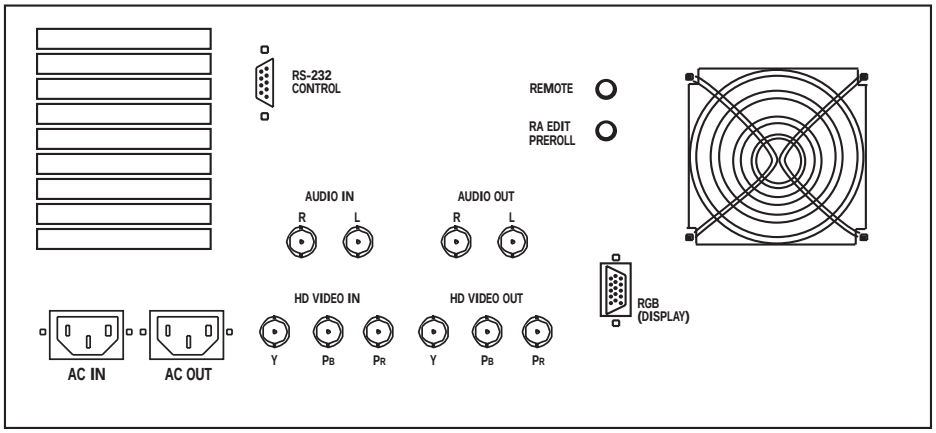

Figure 1: Back panel of HDR 203HD

On the following page is a mechanical drawing of the ruggedized recorder.

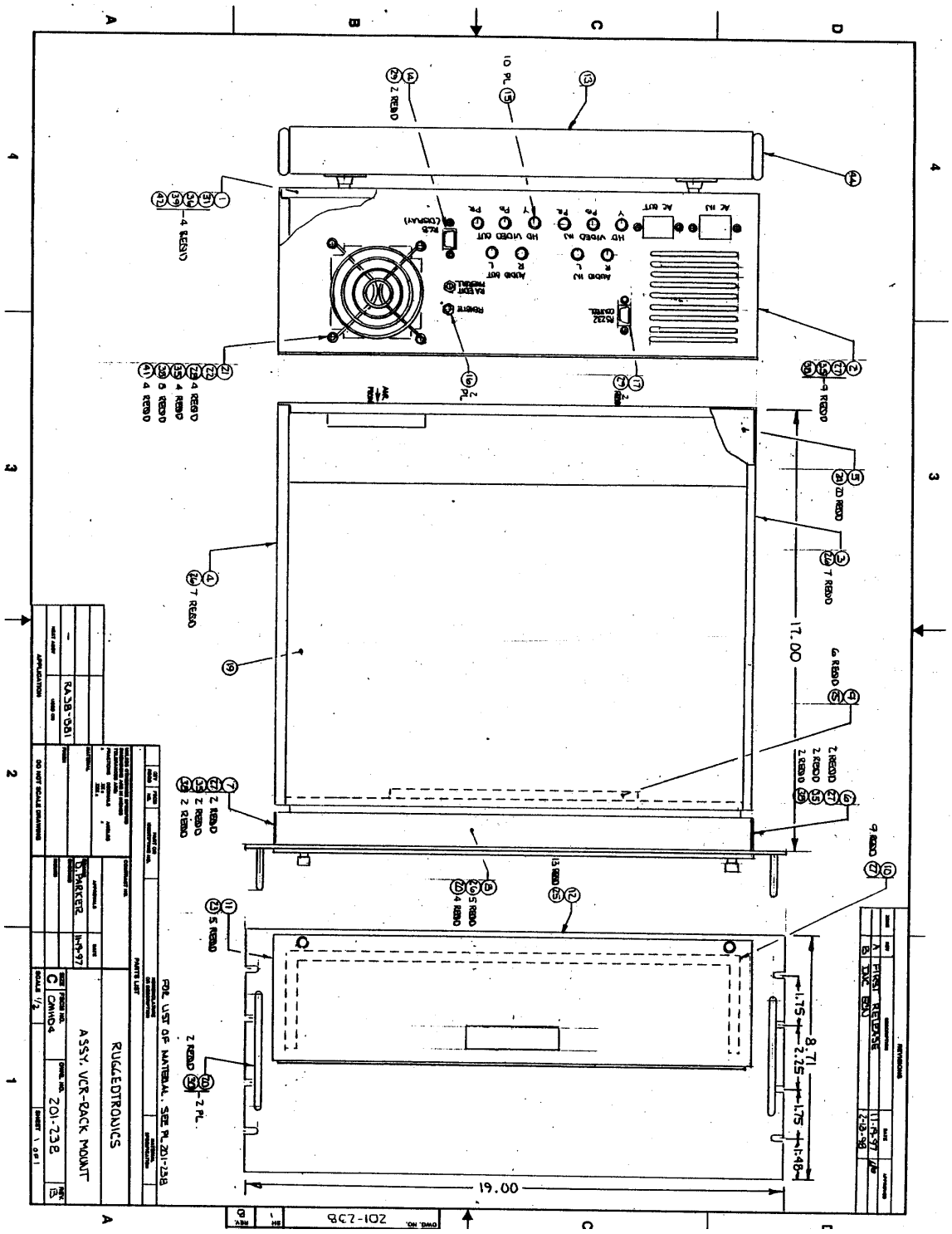

Figure 2: Mechanical drawing of HDR 203HD

Chapter 2 Unpacking

Components Shipped With The HDR 203HD

The HDR 203HD is shipped with the following components in the carton:

- HDR 203HD
- Power cord
- User manual

Optional Components Available From RGB Spectrum

- BNC to BNC cable bundles
- W-VHS and Digital S video cassette tapes

Chapter 3 Specifications

Power Requirements

Voltage:	120 Volt, 60 Hz or 220 Volt, 50 Hz	(must be specified when ordered)
Power:	40 Watts	

Physical

Dimensions:	19.0 (W) x 8.7 (H) x 18 (D) inches
Weight:	35 lbs

Environmental

Temperature:	Operating	+5° to 40°C
	Non Operating	-20° to 60°C
Humidity:	35% to 80 % non-condensing	

Connectors

HD Video In:	3 BNCs (female)
HD Video Out:	3 BNCs (female)
Audio In:	L/R BNCs (female)
Audio Out:	L/R BNCs (female)
RS-232:	9 pin D-Sub (female)
RGB (Display):	15 pin HD D-Sub (female)
Wired Remote:	RCA (female)
RA Edit Preroll:	RCA (female)

Note: See JVC manual in following section for additional technical specifications. Included as Chapter 5 of this manual.

Chapter 4 HDR 203HD RS-232 Serial Control

The HDR 203HD is the ruggedized version of the SR-W5U W-VHS recorder from JVC Professional Products. The HDR 203HD has an RS-232 serial communications port for remote control of its functions. This enables the device to receive data and instructions from host applications, and to be explicitly controlled with commands sent via the serial port from a computer (or ASCII terminal). This port is configured according to the Electronic Industries Association Standard RS-232-C published in August 1969.

Copies of this standard may be obtained by contacting:

Global Engineering Documents
15 Inverness Way
Englewood, CO 80112-5704.
(800) 854-7179 or (303) 397 7956

GED serves as the master distributor for ordering documents of the Electronic Industries Association. The Association can be reached at:

Electronic Industries Association
2500 Wilson Boulevard
Arlington, VA 22201

Physically, the RS-232 port is a 9-pin D-Sub (DB9) connector.

Connecting the RS-232 Port

The ruggedized HDR 203HD may be explicitly controlled with ASCII Command Set instructions sent via the RS-232 serial port from either a computer or an ASCII terminal. See *"Serial Command Set"* below for details on the Command Set.

The serial port is a female DB9 connector.

Serial port connection to the host requires a serial cable to connect to the host. This cable is typically a standard "straight-through" cable, though if the HDR 203HD is connected to a computer configured as a Data Communications Equipment (D.C.E.), you'll need to use a null modem cable (described later in this document). Make the cable connection during the hardware installation sequence.

The serial port's DB9 connector is configured as D.C.E., with the following signals and pin correspondences to the the DB9 connector:

D-Sub 9 pin	Description
1	---
2	Received Data
3	Transmitted Data

D-Sub 9 pin	Description
4	Data Terminal Ready
5	Ground
6	Data Set Ready
7	Request to Send
8	Clear to Send
9	---

RS-232 Serial Port Parameters

Duplex:	Full
Baud rate:	9600
Data bits:	8
Start bit:	1
Stop bit:	1
Parity:	no parity
Physical:	9-pin D-Sub (female)
Configuration:	D.C.E.
SW Handshake:	XOn/XOff

Ensure that the controlling host computer or ASCII terminal is set with the above serial port parameters.

Null Modem

You may need to connect the HDR 203HD's serial port adapter to a host computer configured as *Data Communications Equipment.* This is done using a null modem. The net effect of a null modem is to reverse the *Transmitted Data* and *Received Data* connections. Also, the *Request to Send* and *Clear to Send* connections are reversed. This may be done by using a special "null modem" cable, or by inserting a small "null modem" box or cable in

series with a regular “straight through” cable. The net result of a null modem connection is:

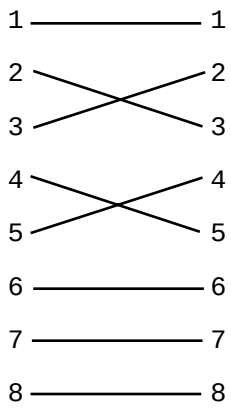

Figure 3: Null Modem Wiring Diagram

Serial Command Set

The HDR 203HD has a limited command set. The commands are simple, 4 character “words”. There are no arguments.

Setting Up the Serial Port

The serial port on the HDR 203HD can be set up to echo the characters as they are entered and provide limited feedback. Alternatively, it can be set up for no echo and no response. These two settings are as follows:

`V1` *Echoes commands and provides feedback*

`V0` *No echo and no feedback*

Simply type the desired set up command and execute with a carriage return <CR>. With the “`V1`” setting, commands beginning with a “W” followed by any other characters will generate a “Ready” response. Commands entered starting with any other character will generate an “Error!” response.

The table below details the command set. Commands are case sensitive and must be entered in uppercase as shown.

Command	Description	Comments
W20F	OPERATE (ON / OFF)	
W209	RECORD	
W211	STOP	
W219	PLAY	
W229	PAUSE	
W239	FAST FORWARD	
W201	REWIND	
W01B	WRITE VISS MARK	Unit must be in “PLAY” to write a VISS mark
W003	ERASE NEXT VISS MARK	
W02B	SEEK TO NEXT VISS MARK	See “Seeking to Multiple VISS Marks”
W00B	SEEK TO PREVIOUS VISS MARK	See “Seeking to Multiple VISS Marks”

Seeking to Multiple VISS Marks

It is possible to instruct the VCR to seek forward and backward multiple VISS marks. Repeated seek commands, either W02B (next) or W00B (previous), will increase the VISS mark search counter as seen on the front panel LCD display. The counter appears as a red numeral with a “-” for seeking to previous marks.

Chapter 5 JVC SR-W5U MANUAL

NOTE: This section contains the user manual for the SR-W5U W-VHS recorder as published by JVC Professional Products. This insert is only included in the printed (hard copy) version of the manual and is not available in this .PDF file. The printed version is available from RGB Spectrum.